BM-500 CL / BB-500 CL

Progressive Scan

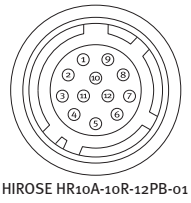
- *Member of C3 Basic series*
- *2456 (h) x 2058 (v) 3.45 µm square pixels*
- *2/3" progressive scan – Monochrome and Bayer mosaic color versions*
- *15 frames/second with full resolution in continuous operation*
- *15 frames/second with external trigger and full resolution*
- *Increased frame rate with vertical binning (BM-500 CL) and partial scan*
- *Pre-Select and Pulse Width trigger modes*
- *Exposure time from 64µs to 2 sec. using Pulse Width trigger mode*
- *Programmable exposure from 64µs to 66 ms in Full Frame scan*
- *256 point LUT for variable Gamma or Knee*
- *Several pre-processing functions for offloading host PC*
- *LVAL-synchronous/-asynchronous operation (auto-detect)*
- *Auto iris lens video output allows a wider range of light*
- *Camera Link interface with 12, 10 or 8-bit output*
- *Setup by Windows NT/2000/XP via Serial Communications*

Specifications for BM-500 CL / BB-500 CL

Specifications	BM-500 CL / BB-500 CL
Sensor	2/3" progressive scan CCD
Pixel Clock	60 MHz
Frame rate full frame	15 frames/second
Active area	8.47 (h) x 7.10 (v)
Cell size	3.45 (h) x 3.45 (v)
Active pixels	2456 (h) x 2058 (v)
Color (BB-500 CL)	Raw Bayer output, host based interpolation
Read-out modes	
Full	2456 (h) x 2058 (v) 15 fps
1/2 partial scan	2456 (h) x 1028 (v) 24 fps
1/4 partial scan	2456 (h) x 514 (v) 34 fps
1/8 partial scan	2456 (h) x 258 (v) 43 fps
2/3 partial scan	2456 (h) x 1372 (v) 20 fps
Vertical binning	2456 (h) x 1039 (v) 22 fps* *Note: BM-500 CL only
Sensitivity (BM-500 CL)	0.34 Lux (On sensor, max. gain, shutter off, 50% video)
Sensitivity (BB-500 CL)	1.0 Lux (On sensor, max. gain, shutter off, 50% video)
S/N ratio	>50 dB (0 dB gain)
Video output	Camera Link, 8-bit, 10-bit or 12-bit
Auto-iris lens video output	0.7 VP-p, enabled by internal switch
Gain	Manual Range -3 to 12 dB
Gamma/Knee	Fixed 0.45 or 256 point LUT
White balance (BB-500 CL)	Auto/Manual Pre-set (3200K, 4600K, 5600K)
Synchronization	Internal X-tal
Inputs Camera Link	Ext. trigger, LVDS (CC 1)
TTL	Ext. trigger 4V ±2V
Outputs Camera Link	Clk., FVAL, LVAL, Data, EEN
TTL	XEEN
Trigger modes	Pre-Select, Pulse Width
Electronic shutter	
Pre-set shutter	1/15 to 1/10,000 in 10 steps
Programmable exposure (PE)	2L(64µs) to 2072 L (66.44ms) in 1L steps
Pulse Width	max. 2 sec. (Can be set by 100µs unit or Pixel Clock unit)
Accumulation	Auto-detect LVAL-synchr. / asynchr.
Pre-processing functions	Output transfer functions (Gamma, multiple-point knee), Bayer white balance, L/R channel balancing, Blemish compensation
Control interface	Camera Link serial communication
Functions controlled by serial communication	Shutter, Trigger mode, Readout mode, Trigger Polarity, Black level, Gain, LUT, Pre-processing
Indicators on rear panel	LED for power and trigger input
Operating Temperature	-5°C to +45°C
Humidity (operation)	20 - 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20 to 90%
Vibration	10 G (20Hz to 200 Hz XYZ)
Shock	70 G
Regulations	CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12V DC +/-10%. 5.5W
Lens mount	C-mount
Dimensions (H x W x L)	55 x 55 x 55
Weight	200 g

Connector pin-out

DC In / Trigger



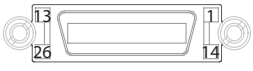
HIROSE HR10A-10R-12PB-01

Pin	Signal
1	GND
2	+12V DC input
3	GND
4	Iris Video
5	GND
6	NC
7	NC
8	GND
9	XEEN out
10	Trigger in*
11	DC +12V
12	GND

*) Selectable via CL or 12-pin Hirose

Note: Factory default is trigger via Camera Link

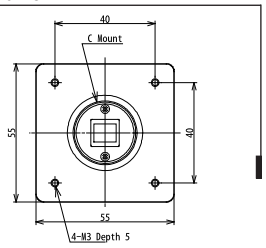
Camera Link interface



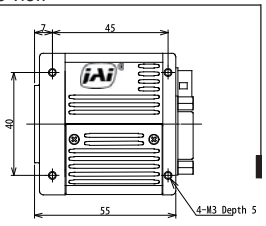
Pin		Signal	Function
1	14	GND	-
2	15	-/+ TxOUTo	CL Data
3	16	-/+ TxOUT1	CL Data
4	17	-/+ TxOUT2	CL Data
5	18	-/+ TxClk	CL clk
6	19	-/+ TxOUT3	CL Data
7	20	+/- RXD	Serial in
8	21	-/+ TXD	Serial out
9	22	CC1-/CC1+	Ext. trig*
10	23	CC2+/CC2-	Not used
11	24	CC3-/CC3+	Not used
12	25	CC4+/CC4-	Not used
13	26	GND	-

Dimensions

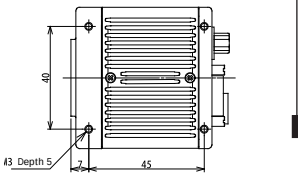
Front view



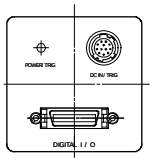
Side view



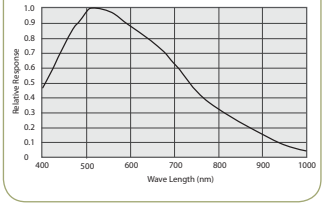
Bottom view



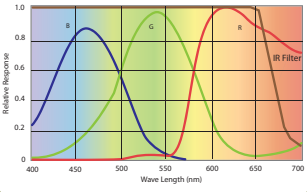
Rear view



Spectral Response BM-500 CL



Spectral Response BB-500 CL



Ordering Information

BM-500 CL 2/3" Monochrome Progressive Scan Camera
BB-500 CL 2/3" Bayer Mosaic Color Progressive Scan Camera

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